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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,304	08/06/2001	Yutaka Yamagata	107734	5220
25944	7590	05/30/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER GORDON, BRIAN R	
			ART UNIT 1743	PAPER NUMBER
DATE MAILED: 05/30/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/674,304

Applicant(s)

YAMAGATA ET AL.

Examiner

Brian R. Gordon

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date =
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks/amendment, filed March 14, 2006, with respect to the rejection(s) of claim(s) 1-2, 6-11, 15 and 19 under 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of Barngrover et al.

In view of the amendments/remarks the previous 112 second paragraph rejections and the 102 rejections as based upon Hall and Barngrover are hereby withdrawn. However a new 103 rejection based upon Barngrover et al. is given herein.

In reference to Barngrover applicant asserts Barngrover does not teach or suggest that a cross section of the inlet of the discharge tube is planar with a desired liquid level in the discharging vessel. Both tubes of Barngrover are not disposed so that the opening inlets are set to the same level as the desired liquid level in the agitation vessel. See Figure 2 of Barngrover.

As previously explained, "a desired liquid level" is just that any selected limited which one chooses at any time. Anyone operating the device can choose a desired level to be whatever level they desire or choose for it to be. As such "a desired level" is indefinite and may change along with the operator. The desired liquid level is not a structural limitation of the device but is reference in the claim to provide a relative location of the elements. The desired level is not specified as a specific by a numerical value or location as for it to be structural limitation. An appropriate limitation would be

for example, a storage vessel including liquid maintained at a constant level of ____ (meters, millimeters, or any length measurement) above a bottom interior surface of the storage vessel. Substituting such or any similar recitations at the appropriate locations within the claims would require the liquid to be at a specified level. However since the claims do not specifically define a specified level the examiner maintains a desired liquid level can be any level one chooses.

Furthermore applicant states, both tubes of Barngrover are not disposed so that the opening inlets are set to the same level as the desired liquid level in the agitation vessel. This argument is not commensurate in scope with that of the claims. The two tubes mentioned in the claims, injection tube and discharge tube are not required to be at the same level. It is only required that the discharge tube be at the same level as the desired level. And while the figures of Barngrover may illustrate a liquid above the opening of the discharge tube this does not preclude one from selecting the level of liquid being that of the placement of the opening of the discharge tube, since it is any level that one desires. The device of Barngrover is clearly capable of maintaining a certain level of liquid within the system see column 3, lines 23-30.

Applicant has further amended the claim to incorporated a wherein clause directed to the function of the discharge means.

It has been held that the functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

"Wherein" is considered equivalent to whereby.

The functional recitation that operation of the discharging means maintains the desired liquid level has not been given patentable weight because it is in narrative form. In

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order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.D. 172; 388 O.F.279.

The examiner suggests: a means for maintaining the liquid at the desired specified level in the discharging and storage vessels, wherein said means for maintaining the liquid level is a liquid discharging means connected to the discharge tube to discharge the liquid from the discharging vessel through the discharge tube.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of the claims refers to the device as liquid treating equipment.

There is no element provided which provides for any treating of the liquid as indicated by the claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

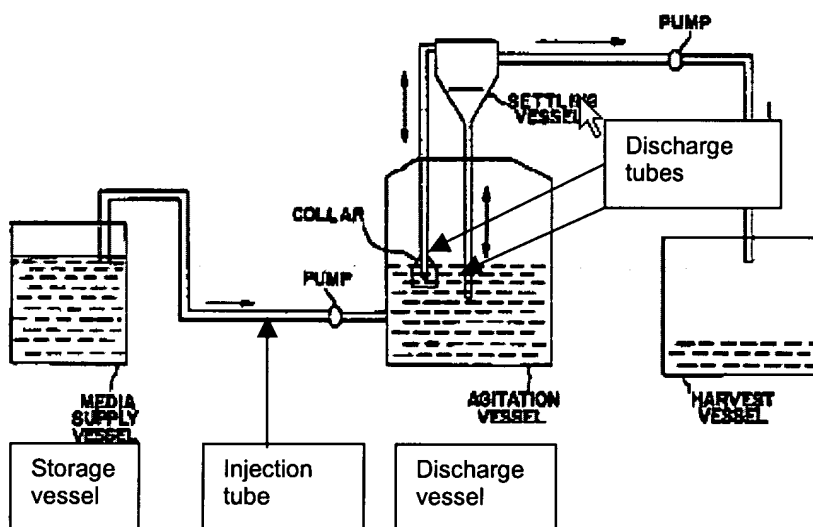
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1-11, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barngrover et al. US 5,733,776.

Barngrover discloses all of the elements of the claim. As stated above "a desired liquid level" is not a structural limitation and can be any level chosen at anytime by an operator. As such, the following is considered meet the claims as labeled. The respective pumps function to supply and discharge the liquid.



Barngrover discloses all of the elements of the claim except for a liquid supplying means and injection tube directed to the storage vessel (media supply vessel).

It should be noted the supply means is not limited to any particular structure. A pump may be considered equivalent to such.

It would have been obvious to one of ordinary skill in the art at the time of the invention to recognize the liquid in the media supply must originate from somewhere to be placed therein. As such it would have been obvious to one of ordinary skill in the art to modify the device to incorporate a pump and an injection tube to supply the liquid therein to the supply liquid from a source to the media vessel.

As to claim 3, it can be seen in the Figure above, that while not specifically stated, the total surface area of the agitation vessel appears to be much larger than that of the storage vessel.

As to claim 4, the discharge vessel of the device as labeled above takes on the form of a denary.

As to claim 5, making the depth of the agitation vessel be less than that of the storage vessel is a design choice, which would have been obvious to one of ordinary skill in the art to choose to make the vessel wider rather than taller but allowing for the same volume therein.

3. Claims 16 -18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barngrover et al. US 5,733,776 as applied to claim 15 above, and further in view of Rose et al. US 6,551,557.

Barngrover et al. do not disclose the device liquid and discharge means comprising rotary or positive displacement pumps.

While both pump-types are conventionally known, Rose discloses a liquid supply/dispensing system comprising a pump. The pump 22 is preferably a high-resolution, positive displacement syringe pump hydraulically coupled to the dispenser 12. Alternatively, pump 22 may be any one of several varieties of commercially available pumping devices for metering precise quantities of liquid. A syringe-type pump 22, as shown in FIG. 7, is preferred because of its convenience and commercial availability. A wide variety of other direct current fluid source means may be used, however, to achieve the benefits and advantages as disclosed herein. These may

include, without limitation, rotary pumps, peristaltic pumps, squash-plate pumps, and the like, or an electronically regulated fluid current source. As the lead screw portion 68 of the plunger shaft 66 is rotated the plunger 64 will be displaced axially, forcing system fluid from the syringe housing 62 into the exit tube 70. Any number of suitable motors or mechanical actuators may be used to drive the lead screw 68. Preferably, a stepper motor 26 (FIG. 7) or other incremental or continuous actuator device is used so that the amount and/or flow rate of fluid or reagent can be precisely regulated.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a rotary or syringe-type pump assembly as taught by Rose et al. for the assemblies are readily available and provide for precise regulation to the fluid flow.

Allowable Subject Matter

4. Claim 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach nor fairly suggest the storage vessel, the flow path and the discharge vessel are hydrophilic treated in an integrally formed material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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